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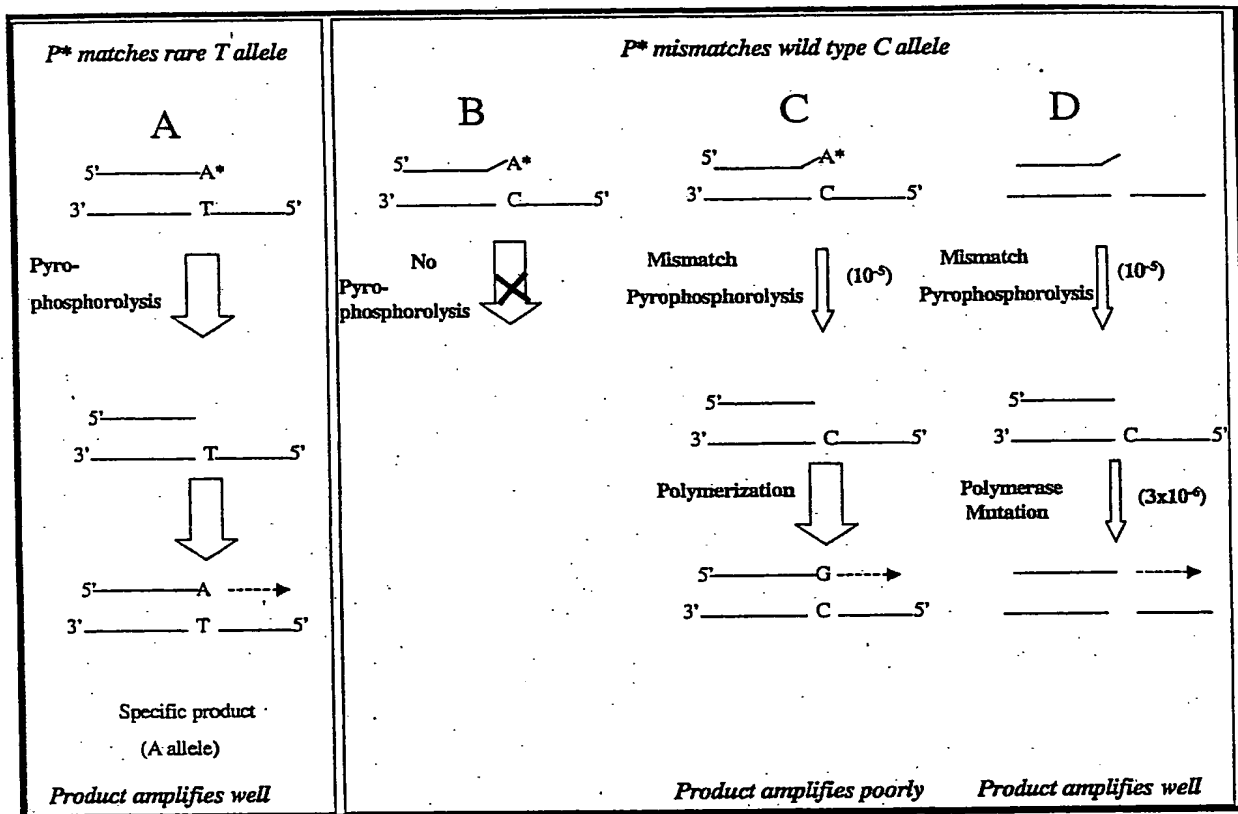
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**FIG. 1**

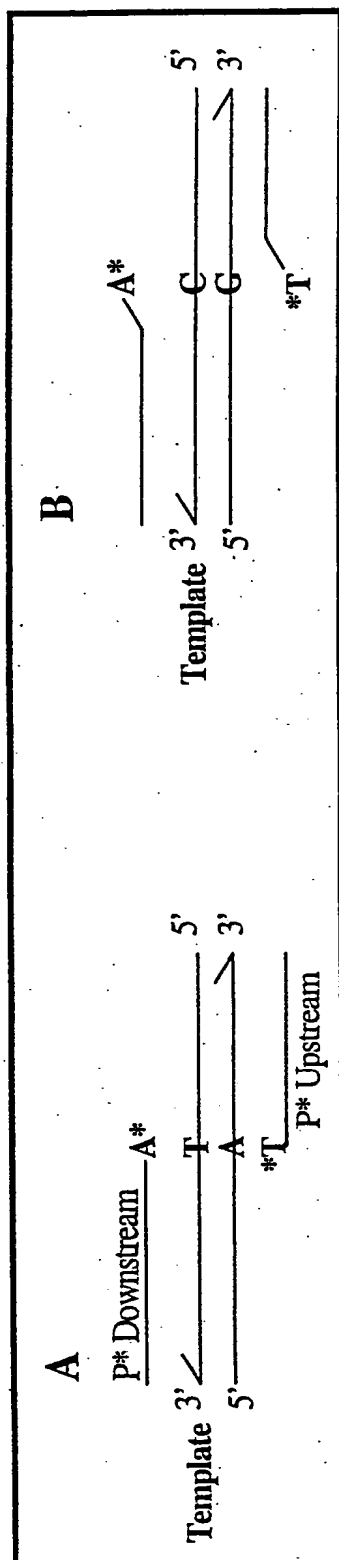


FIG. 2

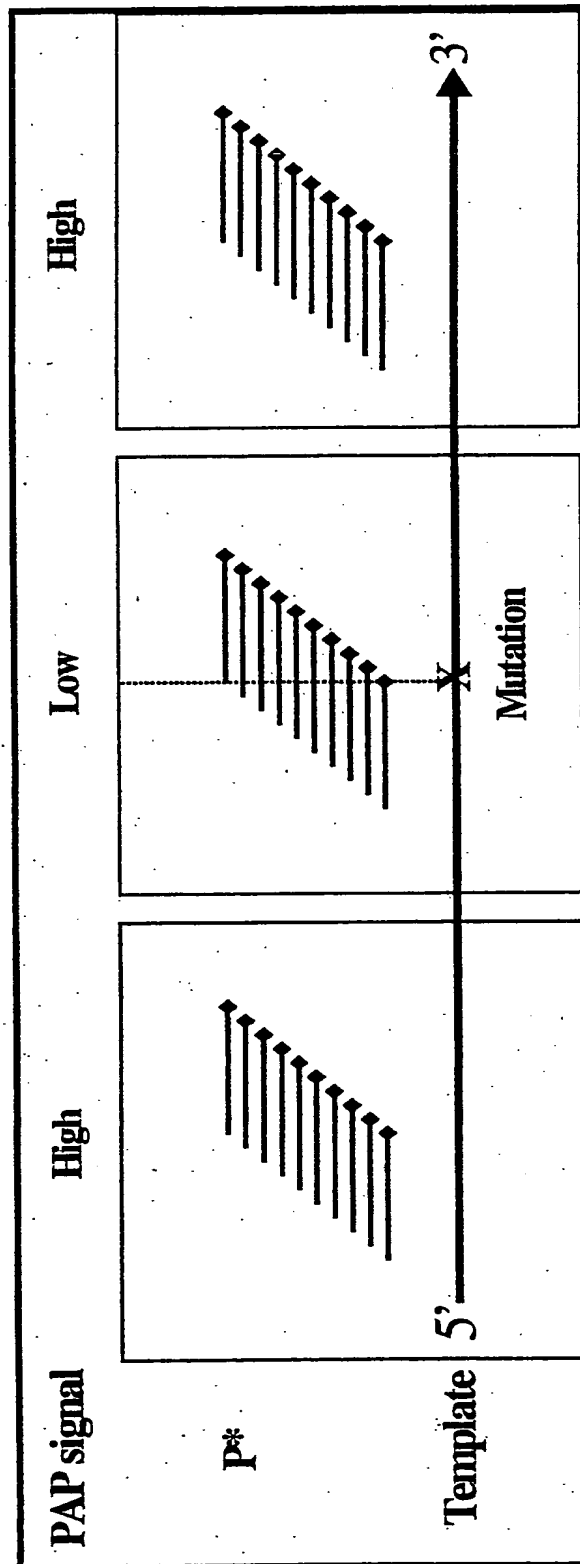


FIG. 3

**5'-3' sense strand of the wild type sequence**

C	T	G	C	T	T	G	G	G	A	C	T	T	G	A	G	G	G	T	G	T	C	A	G
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

### PAP signal with dye-labeled dideoxynucleoside triphosphates

ddA*	ddA
ddT*	ddT
ddG*	ddG
ddC*	ddC

### Base calling: wild type template

CTGCTTGGGAAC TTGAGGGTGT CAG

## B. G→A mutation

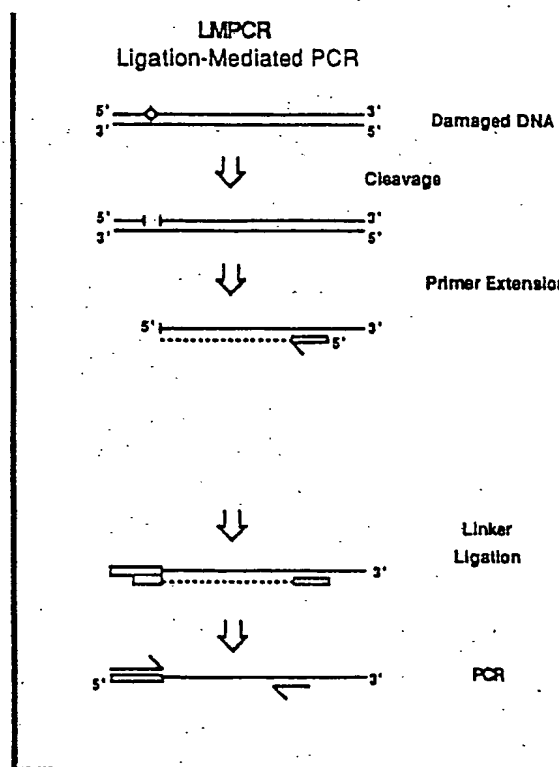
[illegible]

<----- 15 base blank signal window ----->

### Base calling: G-A mutation

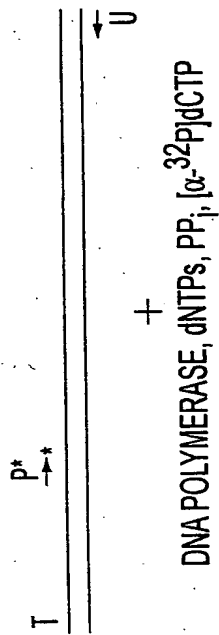
[illegible]

**FIG. 4**



**FIG. 5**

**FIG. 6A**



**FIG. 6B**

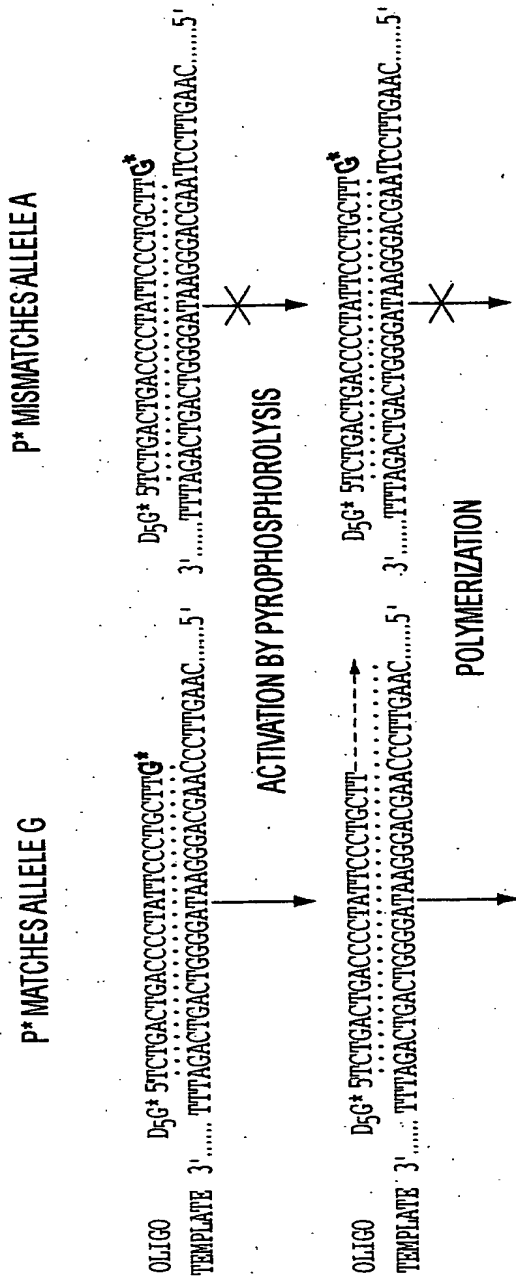


FIG. 6C

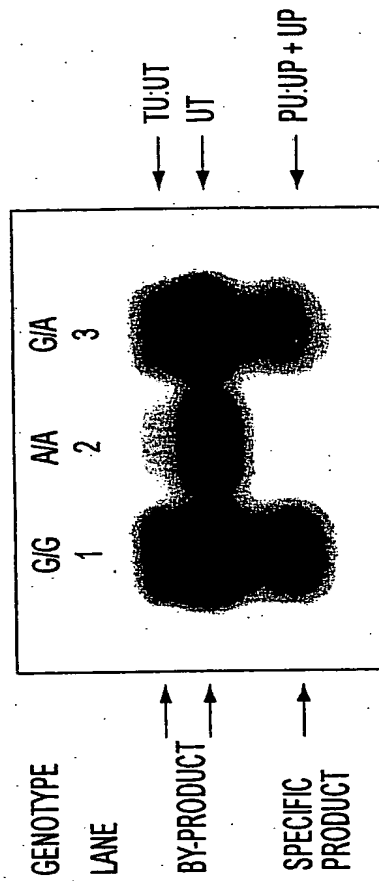


FIG. 7A

PASA

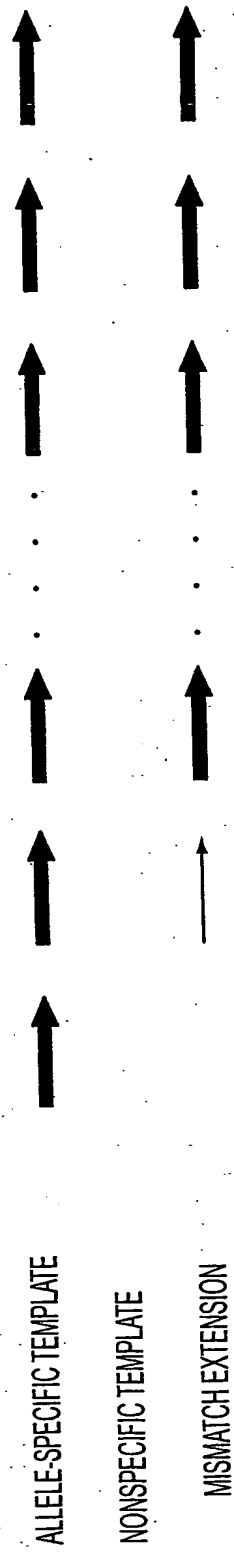
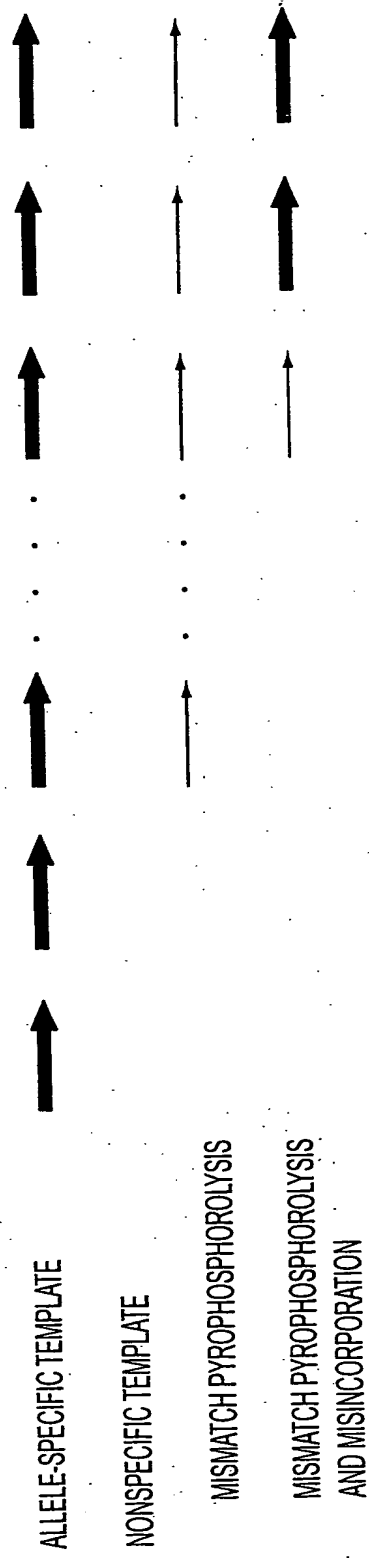


FIG. 7B

PAP





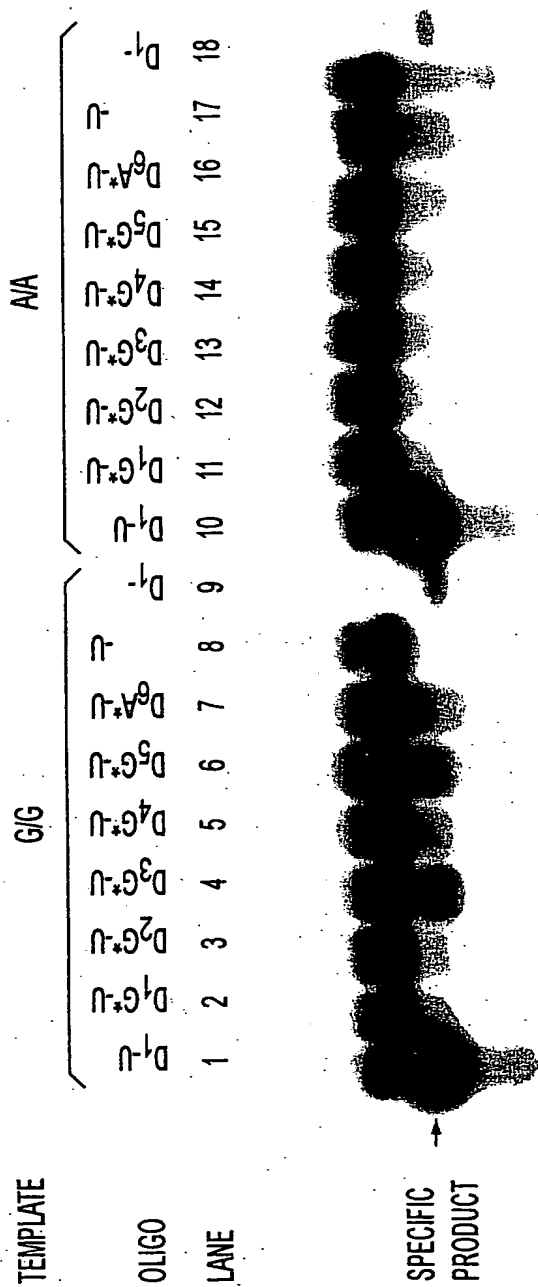


FIG. 8A

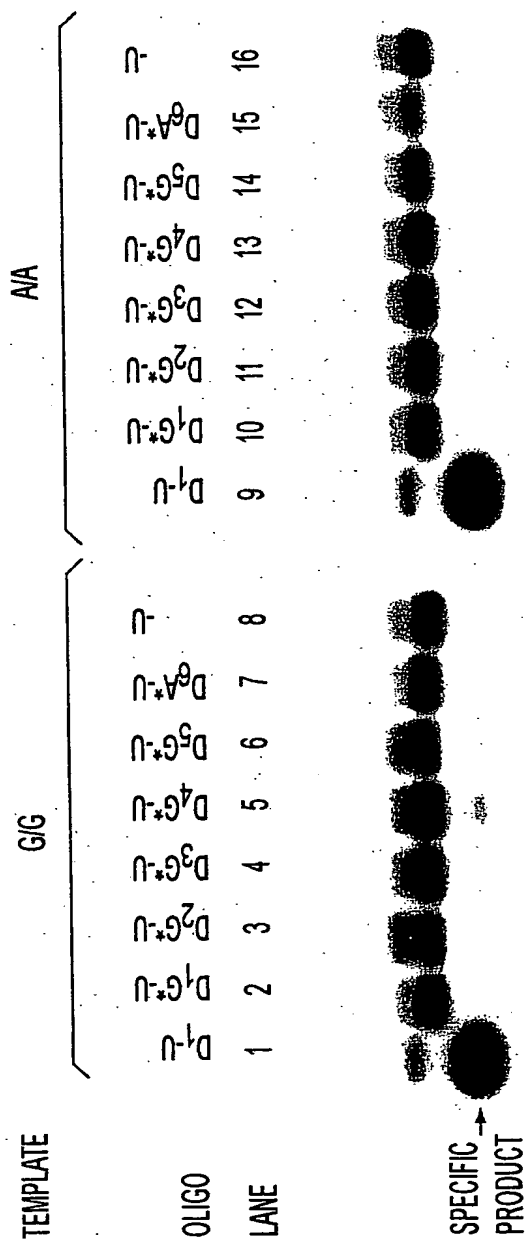


FIG. 8B

**FIG. 9**

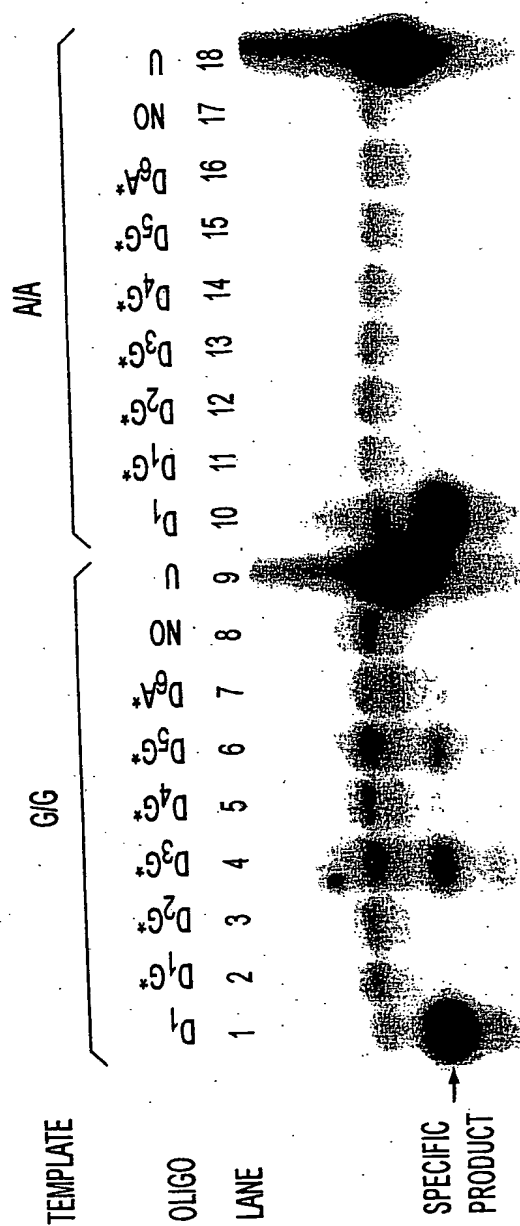


FIG. 10

FIG. 11A

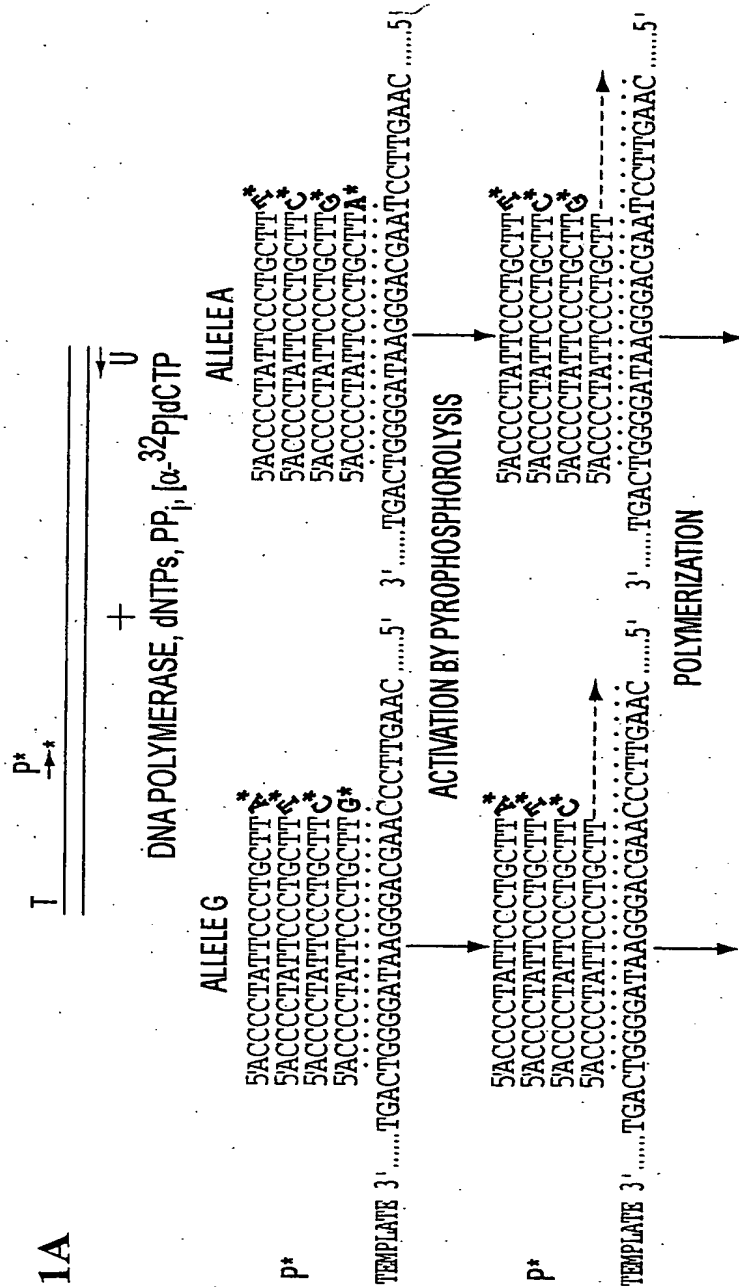
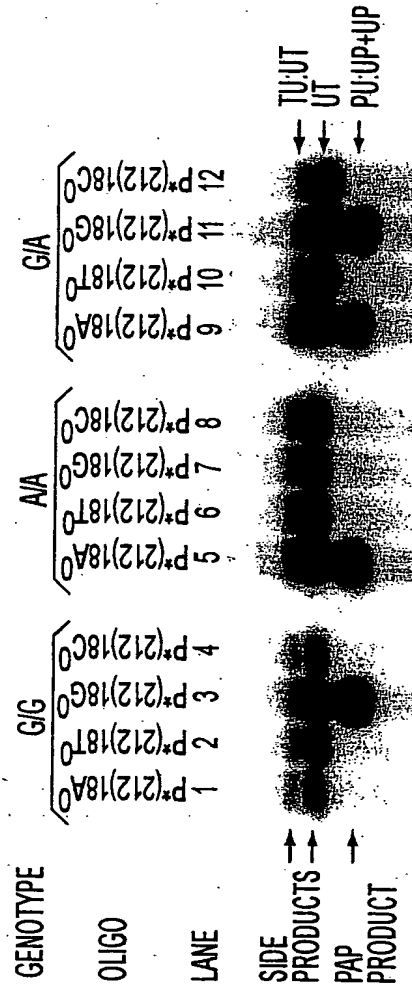


FIG. 11B





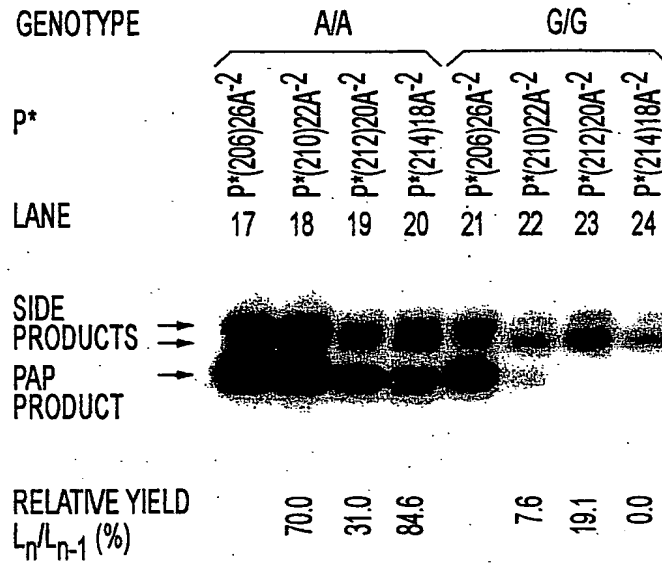


FIG. 12C

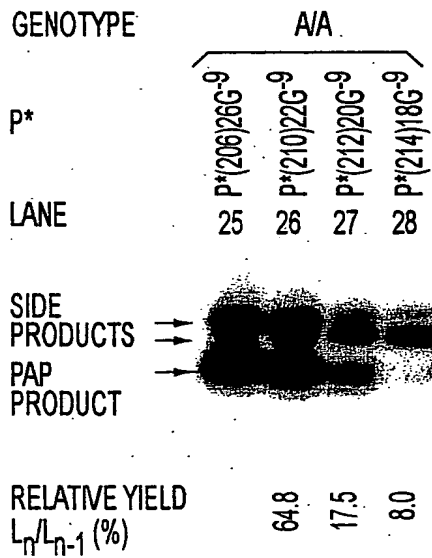


FIG. 12D

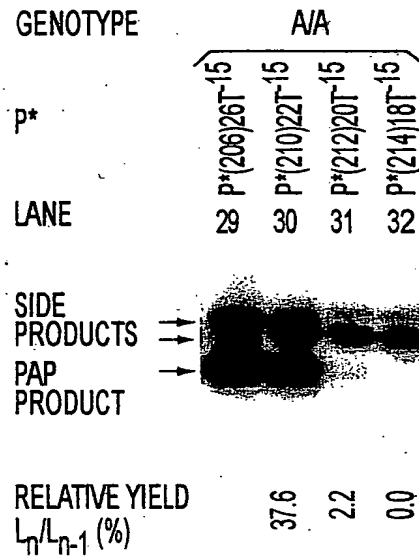


FIG. 12E

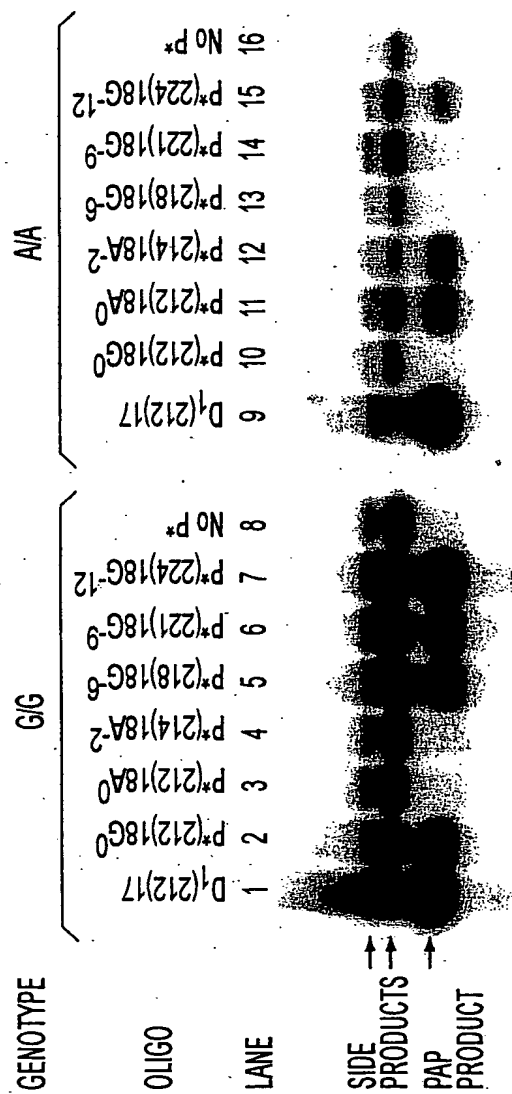


FIG. 13



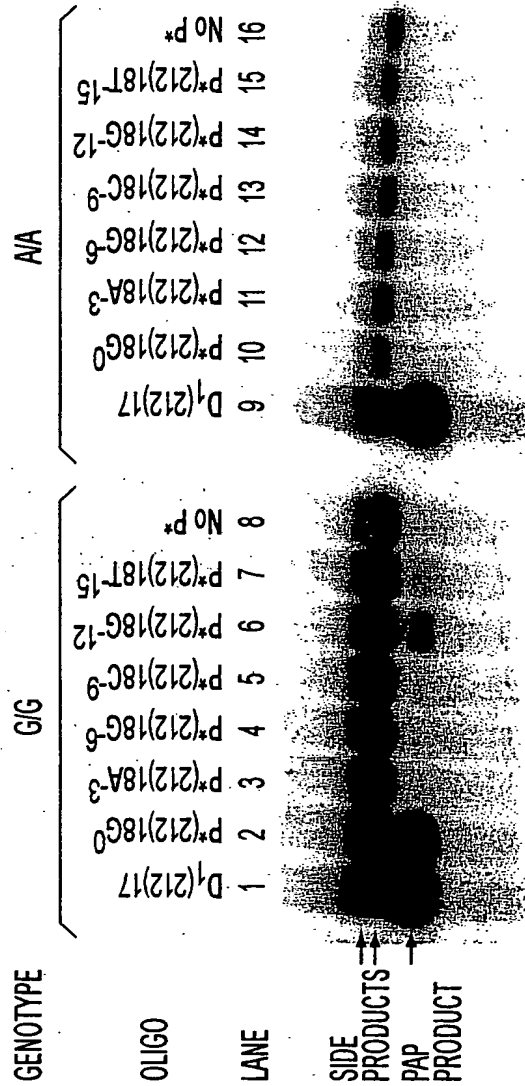


FIG. 14

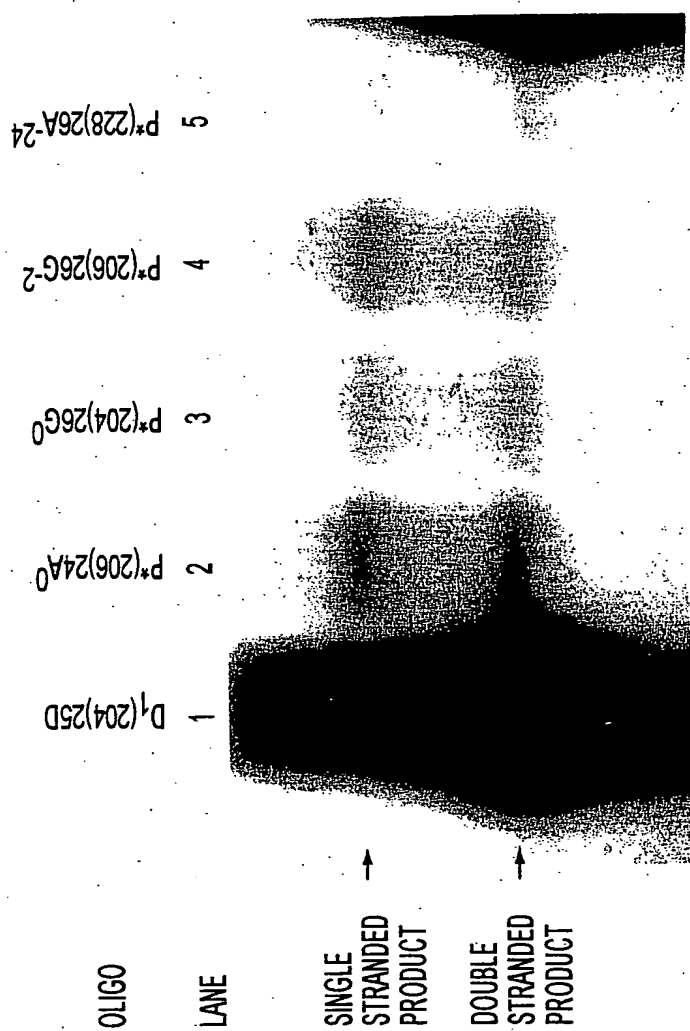


FIG. 15

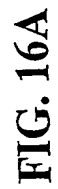
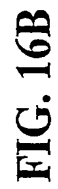


FIG. 17A

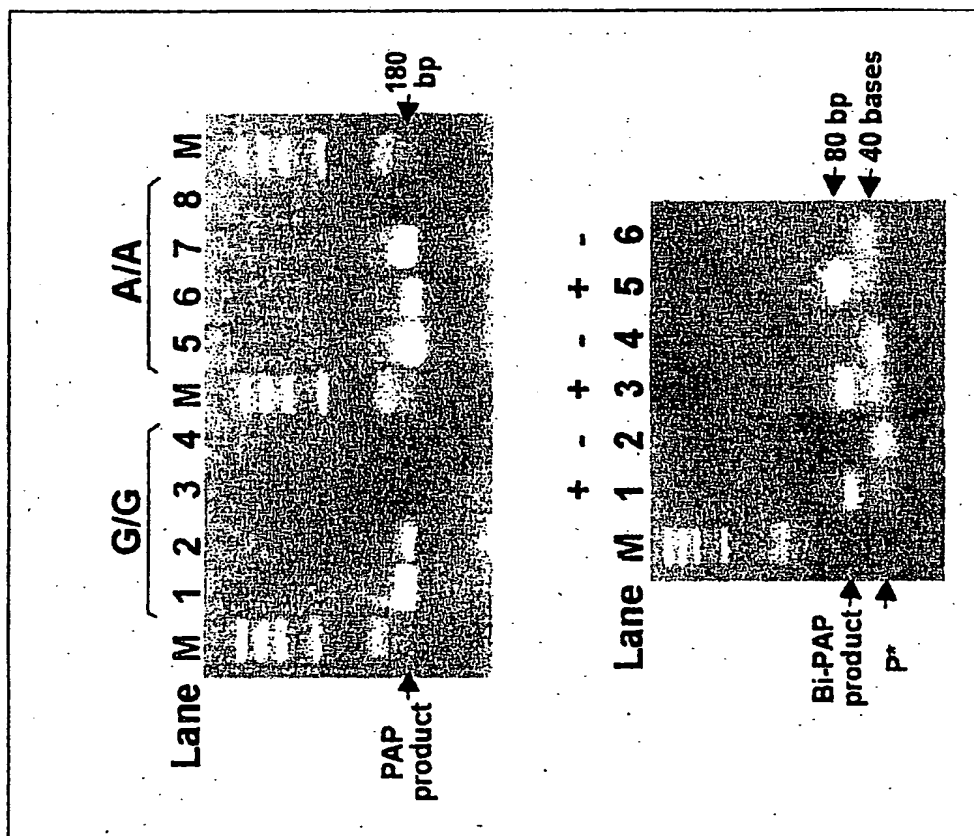


FIG. 18A

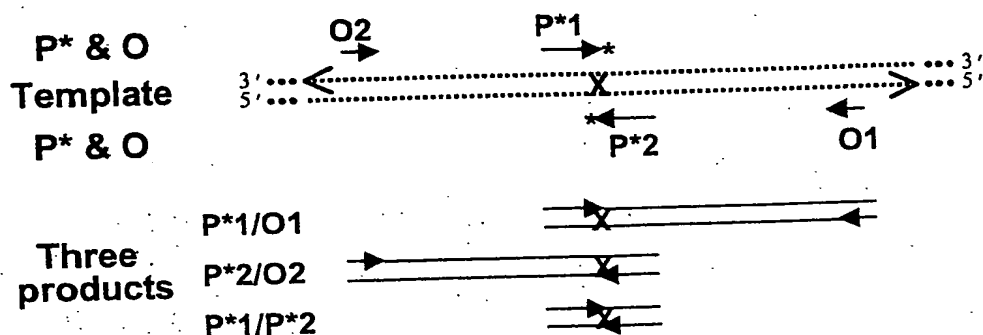


FIG. 18B

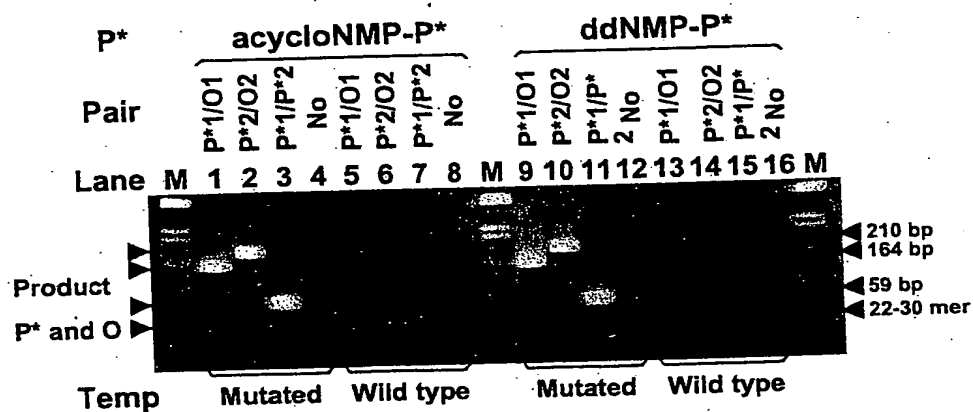


FIG. 18C

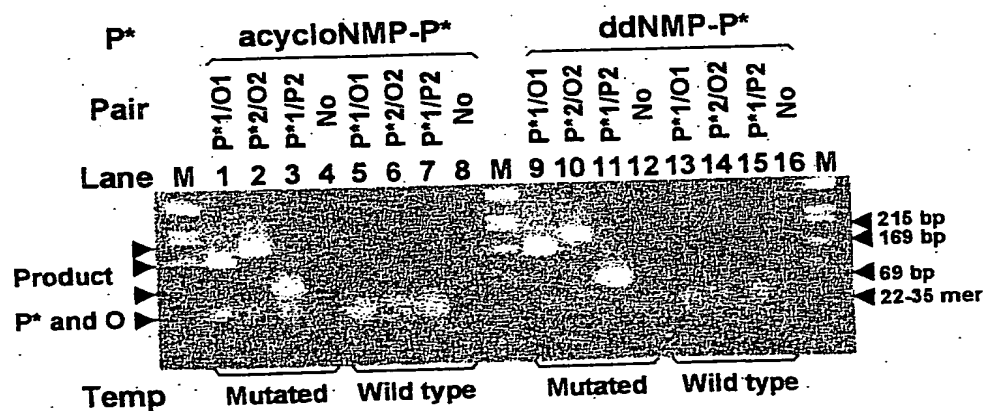


FIG. 18D

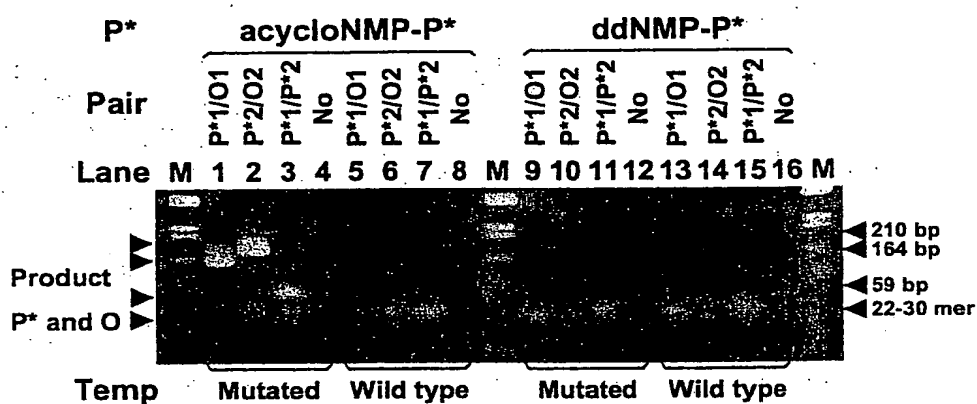
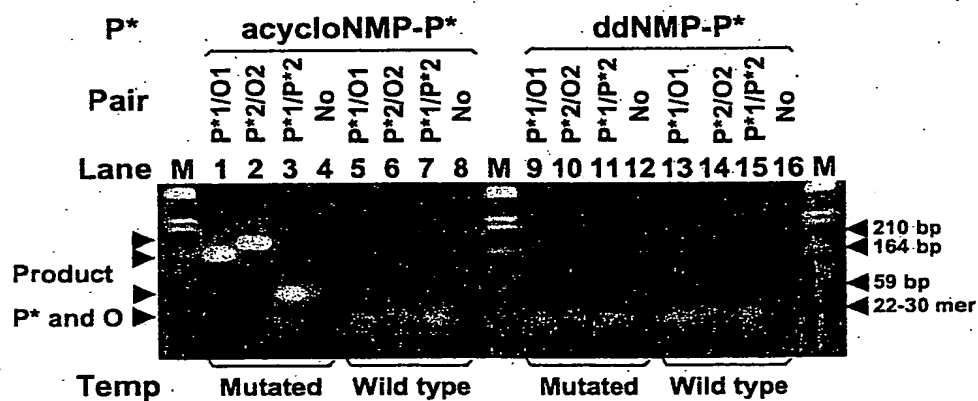


FIG. 18E



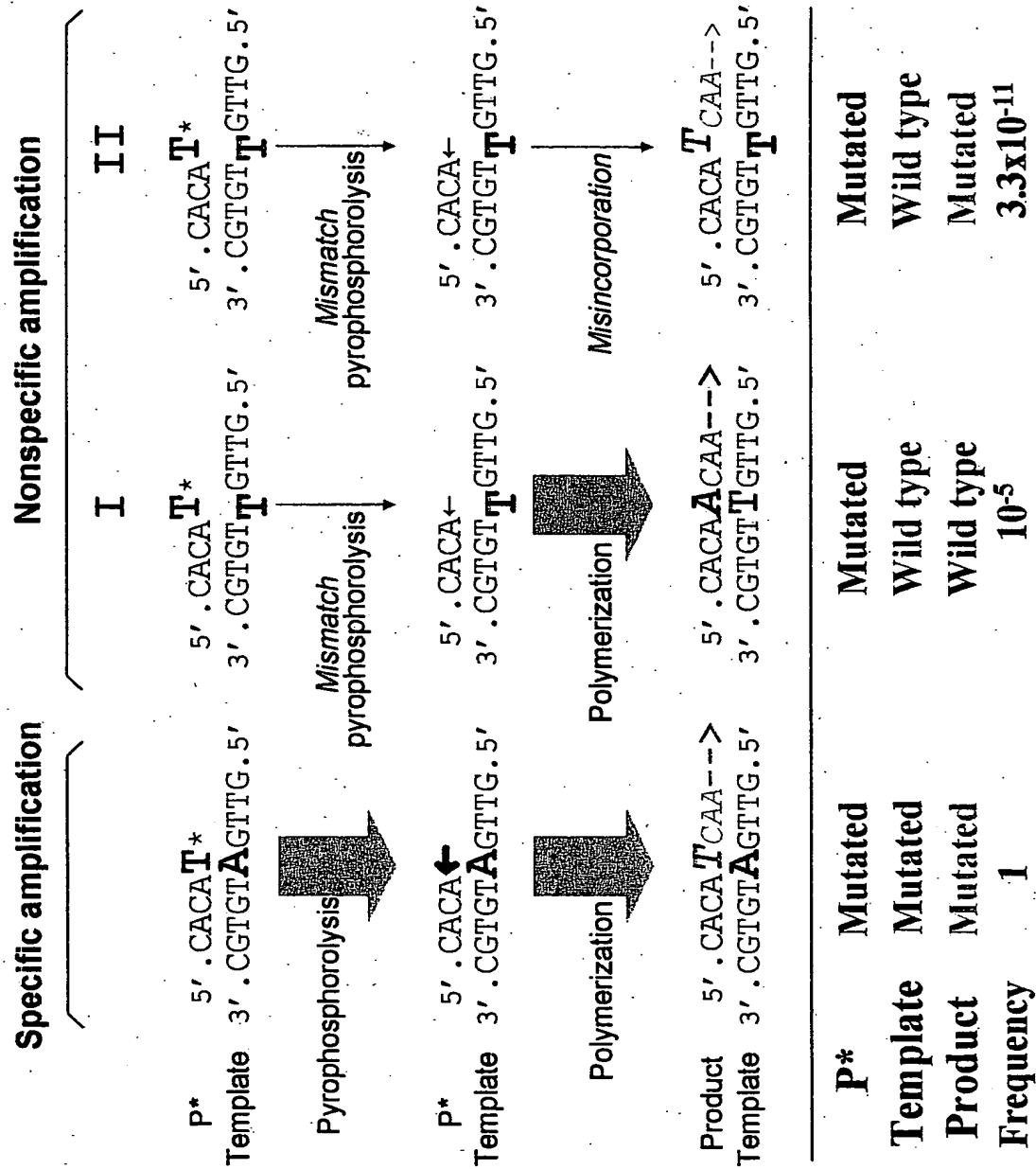


FIG. 19

Template : P\* Match Product  
 Mut:Mut Yes Yes

Template : P\* Match Product  
 WT:Mut No No

P\* 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

T 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

P\* 5'...TGGCACA T\*  
 3' .CGCACC GTGT GTTGACCGCC .5'  
 5' .GCGTGGCACA CAACCTGGCGG .3'  
 \*A GTTGACC...5'

↓ Bi-PAP

P 5'...TGGCACA T\*  
 \*A GTTGACC...5'

5'...TGGCACA TCAACTGG...>  
 <...ACCGTGT AGTTGACC...5'

FIG. 20A



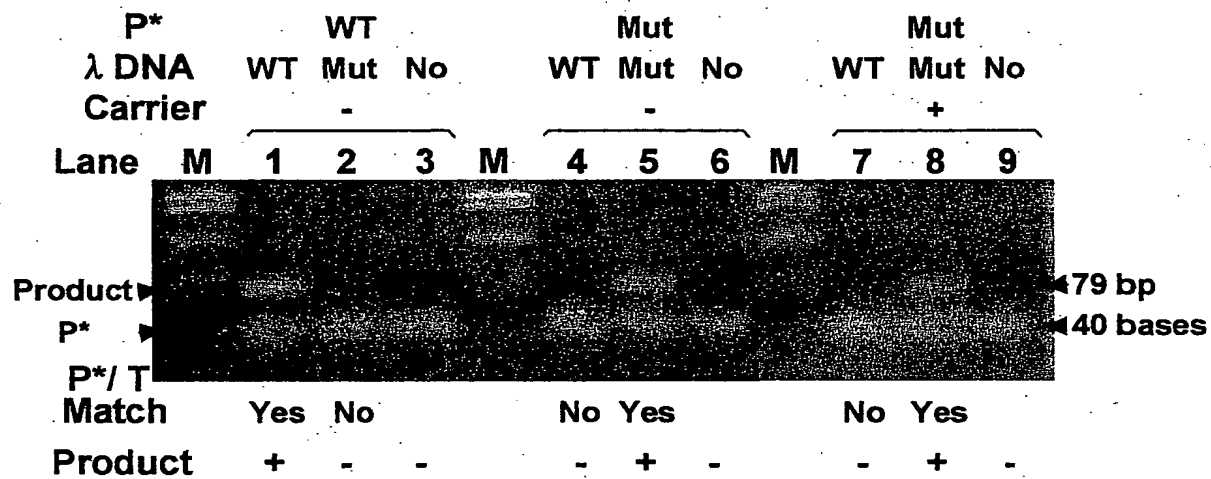


FIG. 20B

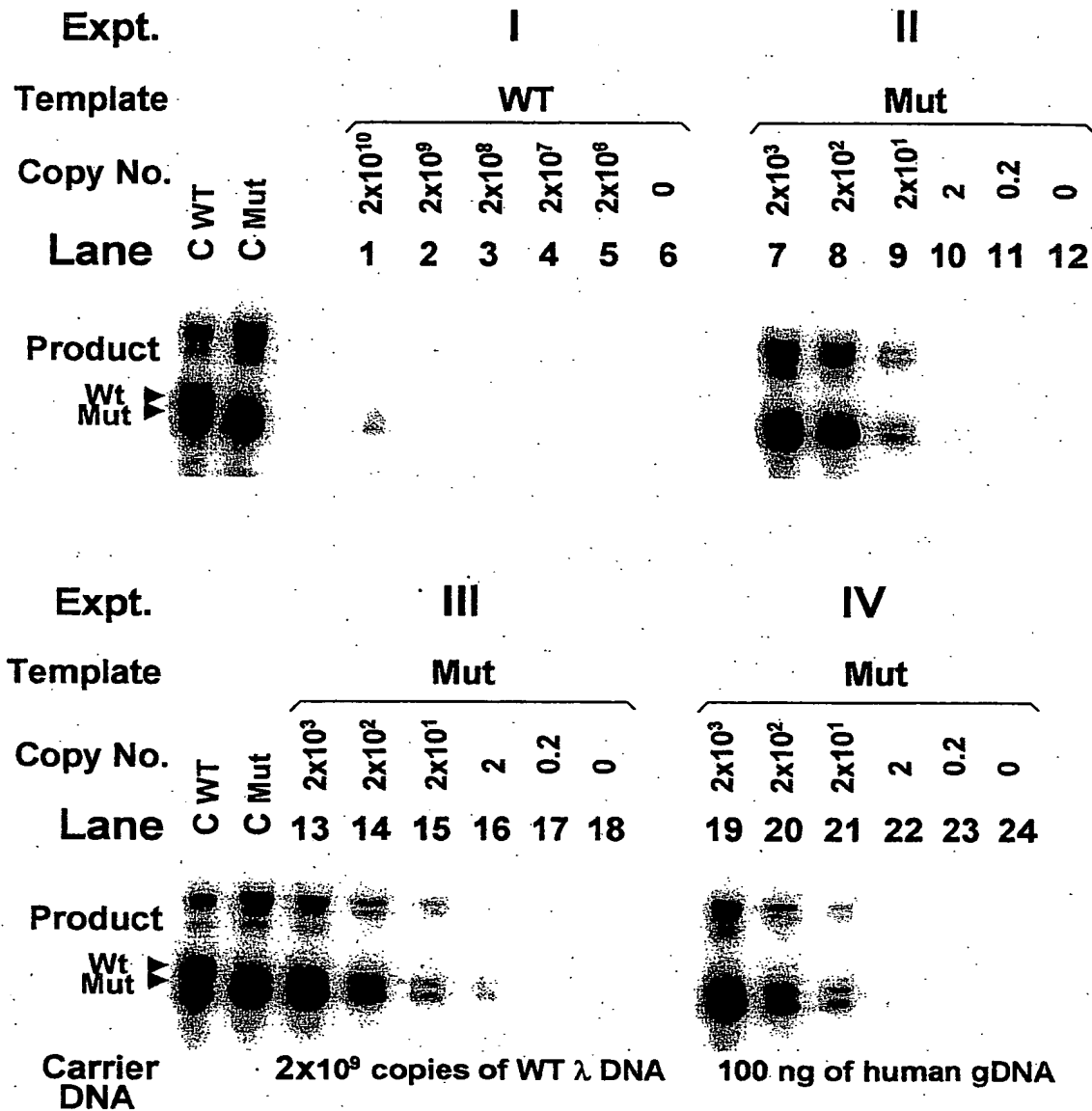
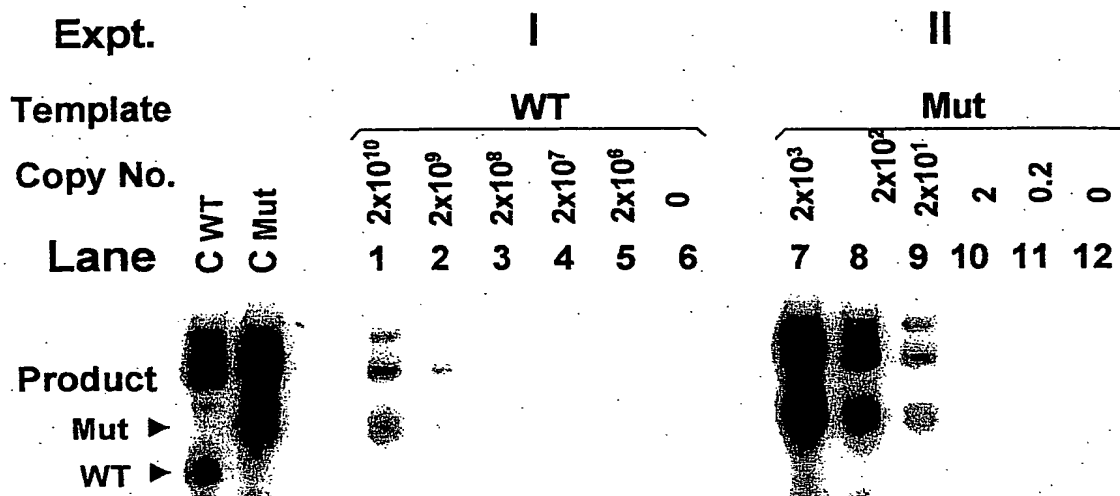
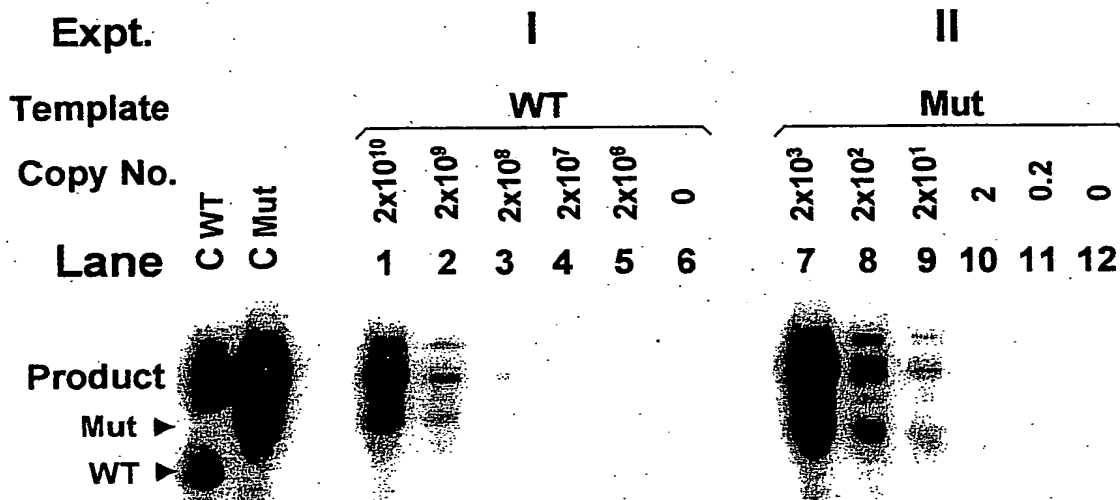


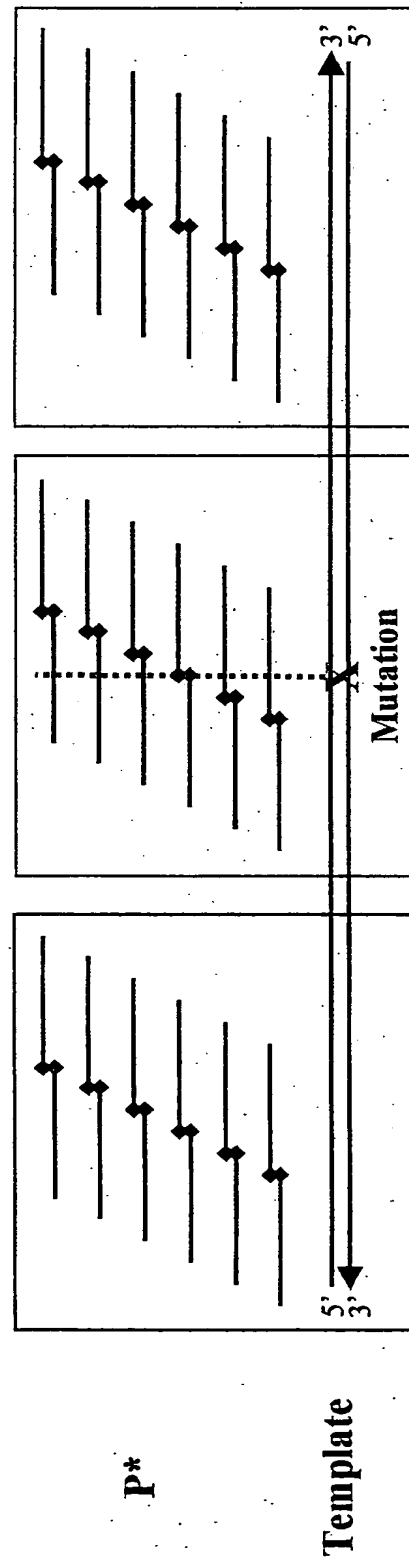
FIG. 21A




**FIG. 21B**




**FIG. 21C**



**FIG. 22**

<b>Wildtype</b>		5' . GCGTGGCACA <b>A</b> CAACTGGCGG . 3'	
<b>Template</b>		3' . CGCACC GTGT <b>T</b> GTTGACCGCC . 5'	<b><u>Match</u></b>
<b>P*</b>	<b>WT</b>	5' ...TGGCACA <b>A</b> * * <b>T</b> GTTGACC...5'	<b>Yes</b>
	<b>Mut</b>	5' ...TGGCACA <b>T</b> * * <b>A</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b>	5' ...TGGCACA <b>G</b> * * <b>C</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b>	5' ...TGGCACA <b>C</b> * * <b>G</b> GTTGACC...5'	<b>No</b>
		 <b>PAP</b>	
			<b><u>Product</u></b>
<b>P*</b>	<b>WT</b>	5' ...TGGCACA <b>A</b> CAACTGG...> <...ACCGTGT <b>T</b> GTTGACC...5'	<b>+</b>
	<b>Mut</b>	5' ...TGGCACA <b>T</b> * * <b>A</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b>	5' ...TGGCACA <b>G</b> * * <b>C</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b>	5' ...TGGCACA <b>C</b> * * <b>G</b> GTTGACC...5'	<b>-</b>

**FIG. 23A**

<b>Mutant</b>	5' . GCGTGGCACA <b>T</b> CAACTGGCGG . 3'	
<b>Template</b>	3' . CGCACCGTGT <b>A</b> GTTGACCGCC . 5'	<b><u>Match</u></b>
<b>P*</b>	<b>WT</b> 5' ...TGGCACA <b>A*</b> * <b>T</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b> 5' ...TGGCACA <b>T*</b> * <b>A</b> GTTGACC...5'	<b>Match</b>
	<b>Mut</b> 5' ...TGGCACA <b>G*</b> * <b>C</b> GTTGACC...5'	<b>No</b>
	<b>Mut</b> 5' ...TGGCACA <b>C*</b> * <b>G</b> GTTGACC...5'	<b>No</b>
 <b>PAP</b>		
<b>P*</b>	<b>WT</b> 5' ...TGGCACA <b>A*</b> * <b>T</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b> 5' ...TGGCACA <b>T</b> CAACTGG...> <...ACCGTGT <b>A</b> GTTGACC...5'	<b>+</b>
	<b>Mut</b> 5' ...TGGCACA <b>G*</b> * <b>C</b> GTTGACC...5'	<b>-</b>
	<b>Mut</b> 5' ...TGGCACA <b>C*</b> * <b>G</b> GTTGACC...5'	<b>-</b>

**FIG. 23B**

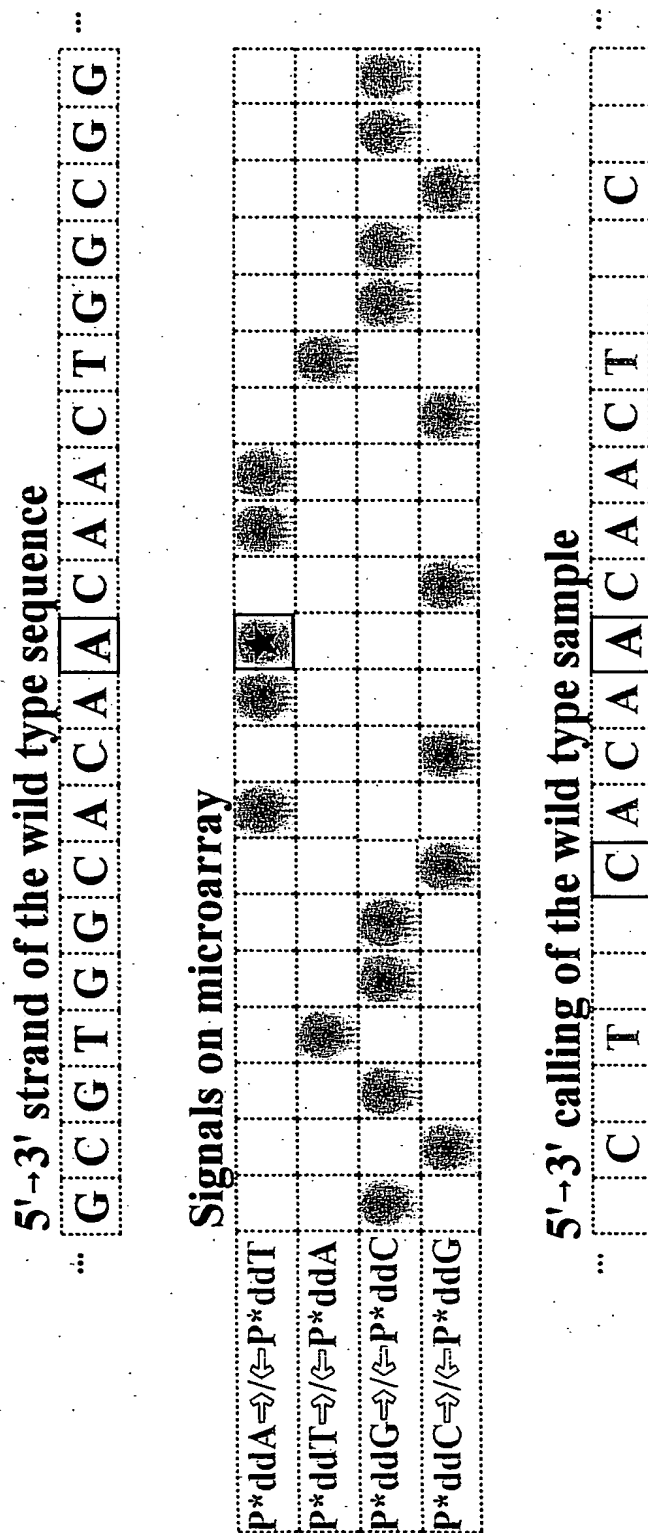
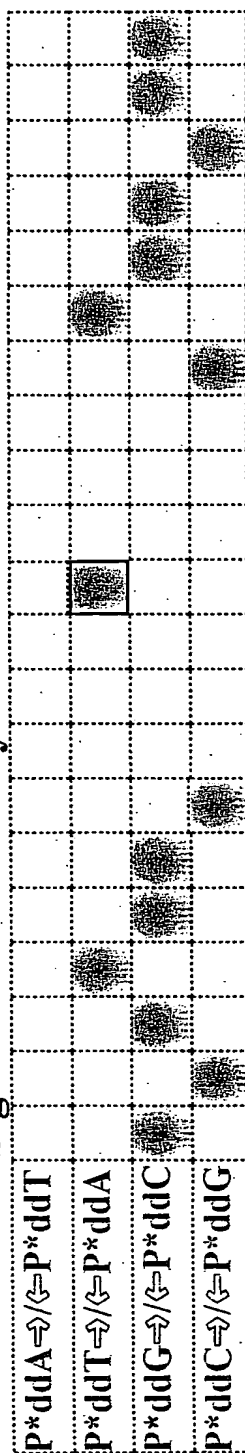


FIG. 24A

... G C G T G G C A C A A C A A C T G G C G G

# Signals on microarray



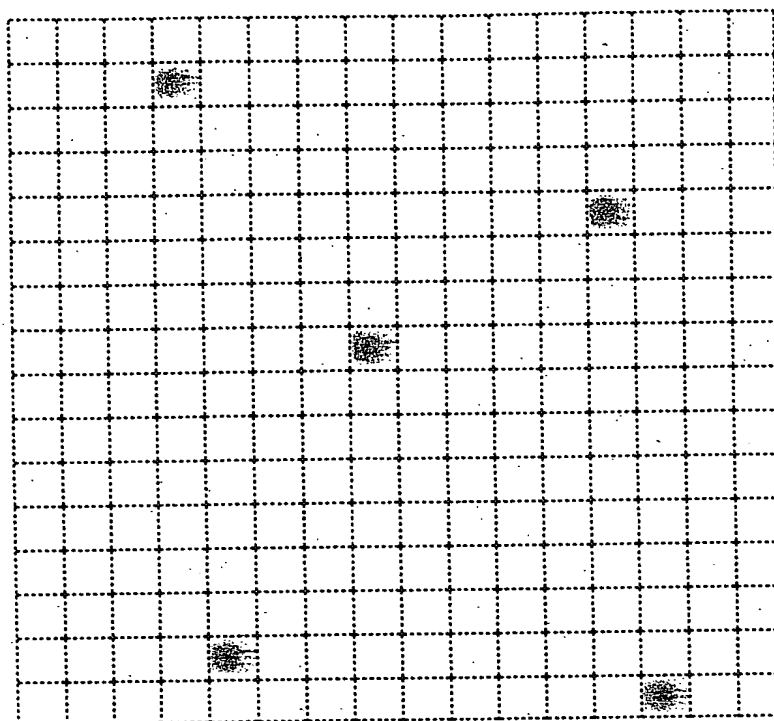
***<mutation window>***

### 5'→3' calling of the mutated sample

...	C	T	C	T	C	T	C	...
-----	---	---	---	---	---	---	---	-----

**FIG. 24B**





Assembly of positive signals by one base overlapping

.....  
 5'...TGGCACA**A**\*  
                   \***T**GTTGACC...5'  
 5'...GGCACA**A**C\*  
                   \***G**TTGACCG...5'  
 5'...GCACA**A**CA\*  
                   \***T**TGACCGC...5'  
 5'...CACA**A**CAA\*  
                   \***T**GACCGCC...5'  
 .....

Reconstruction of the unknown sequence

5'.....**ACAA**.....3'  
 3'.....**TGTT**.....5'

**FIG. 25**

FIG. 26A

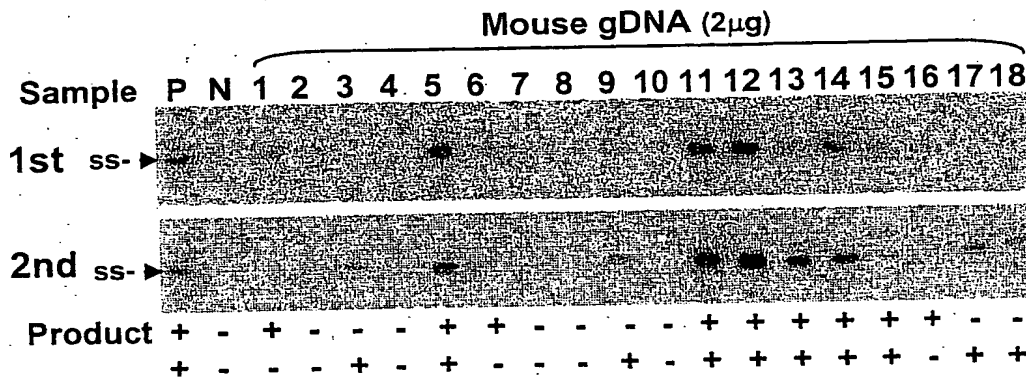


FIG. 26B

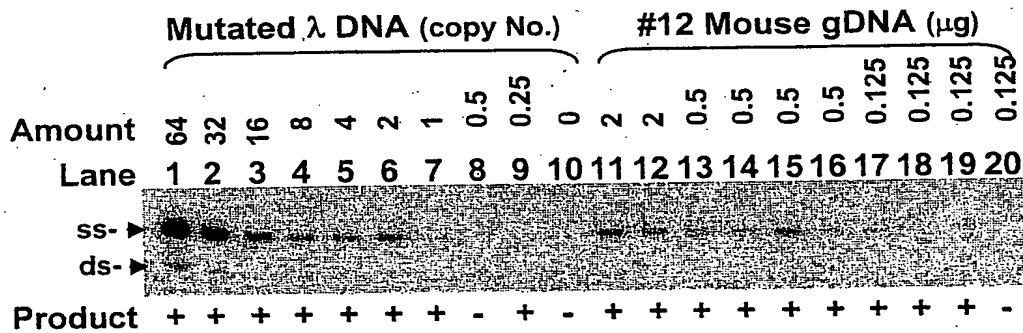


FIG. 26C

